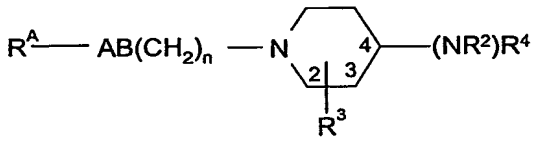
Claims

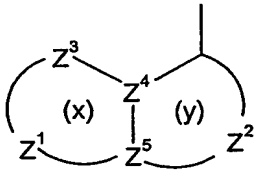
1. A compound of formula (I) or a pharmaceutically acceptable derivative thereof:



(I)

wherein:

R^A is an optionally substituted bicyclic carbocyclic or heterocyclic ring system of structure:



containing 0-3 heteroatoms in each ring in which:

at least one of rings (x) and (y) is aromatic;

one of Z^4 and Z^5 is C or N and the other is C;

Z^3 is N, NR^{13}, O, $S(O)_X$, CO, CR^1 or CR^1R^{1a};

Z^1 and Z^2 are independantly a 2 or 3 atom linker group each atom of which is independently selected from N, NR^{13}, O, $S(O)_X$, CO, CR^1 and CR^1R^{1a};

such that each ring is independently substituted with 0-3 groups R^1 and/or R^{1a};

one of Z^1, Z^2, Z^3, Z^4 and Z^5 is N, one is CR^{1a} and the remainder are CH , or one of Z^1, Z^2, Z^3, Z^4 and Z^5 is CR^{1a} and the remainder are CH;

R^1 and R^{1a} are independently hydrogen; hydroxy; (C_{1-6})alkoxy optionally substituted by (C_{1-6})alkoxy, amino, piperidyl, guanidino or amidino any of which is optionally N-substituted by one or two (C_{1-6})alkyl, acyl or (C_{1-6})alkylsulphonyl groups, $CONH_2$, hydroxy, (C_{1-6})alkylthio, heterocyclylthio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy or (C_{1-6})alkylsulphonyloxy; (C_{1-6})alkoxy-substituted(C_{1-6})alkyl; hydroxy (C_{1-6})alkyl; halogen; (C_{1-6})alkyl; (C_{1-6})alkylthio; trifluoromethyl; trifluoromethoxy; cyano; carboxy; nitro; azido; acyl; acyloxy; acylthio; (C_{1-6})alkylsulphonyl; (C_{1-6})alkylsulphoxide; arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two (C_{1-6})alkyl, acyl or (C_{1-6})alkylsulphonyl groups, or when Z^3 and the adjacent atom are CR^1 and CR^{1a}, R^1 and R^{1a} may together represent (C_{1-2})alkylenedioxy;

provided that R^1 and R^{1a}, on the same carbon atom are not both optionally substituted hydroxy or amino;

provided that
(i) when R^A is optionally substituted quinolin-4-yl:
it is unsubstituted in the 6-position; or
it is substituted by at least one hydroxy (C_{1-6})alkyl, cyano or carboxy group at the 2-, 5-, 6-, 7- or 8-position; or
it is substituted by at least one trifluoromethoxy group; or
R^1 and R^{1a} together represent (C_{1-2})alkylenedioxy;
(ii) when R^A is optionally substituted quinazolin-4-yl, cinnolin-4-yl, 1,5-naphthyridin-4-yl, 1,7-naphthyridin-4-yl or 1,8-naphthyridin-4-yl:
it is substituted by at least one hydroxy (C_{1-6})alkyl, cyano or carboxy group at the 2-, 5-, 6-, 7- or 8-position as available; or
it is substituted by at least one trifluoromethoxy group; or
R^1 and R^{1a} together represent (C_{1-2})alkylenedioxy;

R^2 is hydrogen, or (C_{1-4})alkyl or (C_{2-4})alkenyl optionally substituted with 1 to 3 groups selected from:
amino optionally substituted by one or two (C_{1-4})alkyl groups; carboxy; (C_{1-4})alkoxycarbonyl; (C_{1-4})alkylcarbonyl; (C_{2-4})alkenyloxycarbonyl; (C_{2-4})alkenylcarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C_{1-4})alkyl, hydroxy(C_{1-4})alkyl, aminocarbonyl(C_{1-4})alkyl, (C_{2-4})alkenyl, (C_{1-4})alkylsulphonyl, trifluoromethylsulphonyl, (C_{2-4})alkenylsulphonyl, (C_{1-4})alkoxycarbonyl, (C_{1-4})alkylcarbonyl, (C_{2-4})alkenyloxycarbonyl or (C_{2-4})alkenylcarbonyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R^{10}; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R^{10}; 5-oxo-1,2,4-oxadiazol-3-yl; halogen; (C_{1-4})alkylthio; trifluoromethyl; hydroxy optionally substituted by (C_{1-4})alkyl, (C_{2-4})alkenyl, (C_{1-4})alkoxycarbonyl, (C_{1-4})alkylcarbonyl, (C_{2-4})alkenyloxycarbonyl, (C_{2-4})alkenylcarbonyl; oxo; (C_{1-4})alkylsulphonyl; (C_{2-4})alkenylsulphonyl; or (C_{1-4})aminosulphonyl wherein the amino group is optionally substituted by (C_{1-4})alkyl or (C_{2-4})alkenyl;

R^3 is hydrogen; or
R^3 is in the 2-, 3- or 4-position and is:

trifluoromethyl; carboxy; (C_{1-6})alkoxycarbonyl; (C_{2-6})alkenyloxycarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, aminocarbonyl(C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkylsulphonyl, trifluoromethylsulphonyl, (C_{2-6})alkenylsulphonyl, (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl or (C_{2-6})alkenylcarbonyl and optionally further substituted by (C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, aminocarbonyl(C_{1-6})alkyl or (C_{2-6})alkenyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R^{10}; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R^{10}; or 5-oxo-1,2,4-oxadiazol-3-yl; or

(C_{1-4})alkyl or ethenyl optionally substituted with any of the substituents listed above for R^3 and/or 0 to 2 groups R^{12} independently selected from:

halogen; (C_{1-6})alkylthio; trifluoromethyl; (C_{1-6})alkoxycarbonyl; (C_{1-6})alkylcarbonyl; (C_{2-6})alkenyloxycarbonyl; (C_{2-6})alkenylcarbonyl; hydroxy optionally substituted by (C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl, (C_{2-6})alkenylcarbonyl or aminocarbonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkylcarbonyl or (C_{2-6})alkenylcarbonyl; amino optionally mono- or disubstituted by (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl, (C_{2-6})alkenylcarbonyl, (C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkylsulphonyl, (C_{2-6})alkenylsulphonyl or aminocarbonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl; aminocarbonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, aminocarbonyl(C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl or (C_{2-6})alkenylcarbonyl and optionally further substituted by (C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, aminocarbonyl(C_{1-6})alkyl or (C_{2-6})alkenyl; oxo; (C_{1-6})alkylsulphonyl; (C_{2-6})alkenylsulphonyl; or (C_{1-6})aminosulphonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl; or

R^3 is in the 2-position and is oxo; or

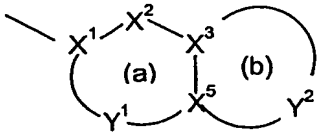
R^3 is in the 3-position and is fluorine, amino optionally substituted by a group selected from hydroxy, (C_{1-6})alkylsulphonyl, trifluoromethylsulphonyl, (C_{2-6})alkenylsulphonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenylcarbonyl, (C_{1-6})alkoxycarbonyl, (C_{2-6})alkenyloxycarbonyl, (C_{1-6})alkyl and (C_{2-6})alkenyl, wherein a (C_{1-6})alkyl or (C_{2-6})alkenyl moiety may be optionally substituted with up to 2 groups R^{12}, or hydroxy optionally substituted as described above for R^{12} hydroxy;

in addition when R^3 is disubstituted with a hydroxy or amino containing substituent and carboxy containing substituent these may together form a cyclic ester or amide linkage, respectively;

R^4 is a group -U-R^5 where

U is selected from CO, SO_2 and CH_2 and

R^5 is an optionally substituted bicyclic carbocyclic or heterocyclic ring system (A):



(A)

containing up to four heteroatoms in each ring in which

at least one of rings (a)and (b) is aromatic;

X^1 is C or N when part of an aromatic ring, or CR^{14} when part of a non-aromatic ring;

X^2 is N, NR^{13}, O, $S(O)_X$, CO or CR^{14} when part of an aromatic or non-aromatic ring or may in addition be $CR^{14}R^{15}$ when part of a non aromatic ring;

X^3 and X^5 are independently N or C;

Y^1 is a 0 to 4 atom linker group each atom of which is independently selected from N, NR^{13}, O, $S(O)_X$, CO and CR^{14} when part of an aromatic or non-aromatic ring or may additionally be $CR^{14}R^{15}$ when part of a non aromatic ring;

Y^2 is a 2 to 6 atom linker group, each atom of Y^2 being independently selected from N, NR^{13}, O, $S(O)_X$, CO, CR^{14} when part of an aromatic or non-aromatic ring or may additionally be $CR^{14}R^{15}$ when part of a non aromatic ring;

each of R^{14} and R^{15} is independently selected from: H; (C_{1-4})alkylthio; halo; carboxy(C_{1-4})alkyl; halo(C_{1-4})alkoxy; halo(C_{1-4})alkyl; (C_{1-4})alkyl; (C_{2-4})alkenyl; (C_{1-4})alkoxycarbonyl; formyl; (C_{1-4})alkylcarbonyl; (C_{2-4})alkenyloxycarbonyl; (C_{2-4})alkenylcarbonyl; (C_{1-4})alkylcarbonyloxy; (C_{1-4})alkoxycarbonyl(C_{1-4})alkyl; hydroxy; hydroxy(C_{1-4})alkyl; mercapto(C_{1-4})alkyl; (C_{1-4})alkoxy; nitro; cyano; carboxy; amino or aminocarbonyl optionally substituted as for corresponding substituents in R^3; (C_{1-4})alkylsulphonyl; (C_{2-4})alkenylsulphonyl; or aminosulphonyl wherein the amino group is optionally mono- or di-substituted by (C_{1-4})alkyl or (C_{2-4})alkenyl; aryl; aryl(C_{1-4})alkyl; aryl(C_{1-4})alkoxy or

R^{14} and R^{15} may together represent oxo;

each R^{13} is independently H; trifluoromethyl; (C_{1-4})alkyl optionally substituted by hydroxy, (C_{1-6})alkoxy, (C_{1-6})alkylthio, halo or trifluoromethyl; (C_{2-4})alkenyl; aryl; aryl (C_{1-4})alkyl; arylcarbonyl; heteroarylcarbonyl; (C_{1-4})alkoxycarbonyl; (C_{1-4})alkylcarbonyl; formyl; (C_{1-6})alkylsulphonyl; or aminocarbonyl wherein the amino group is optionally substituted by (C_{1-4})alkoxycarbonyl, (C_{1-4})alkylcarbonyl, (C_{2-}

4)alkenyloxycarbonyl, (C_{2-4})alkenylcarbonyl, (C_{1-4})alkyl or (C_{2-4})alkenyl and optionally further substituted by (C_{1-4})alkyl or (C_{2-4})alkenyl;

each x is independently 0, 1 or 2

n is 0 and AB is $NR^{11}CO$, $CO\text{-}CR^8R^9$, $CR^6R^7\text{-}CO$, $NHR^{11}SO_2$, $CR^6R^7\text{-}SO_2$ or $CR^6R^7\text{-}CR^8R^9$, provided that R^8 and R^9 are not optionally substituted hydroxy or amino and R^6 and R^8 do not represent a bond:
or n is 1 and AB is $NR^{11}CO$, $CO\text{-}CR^8R^9$, $CR^6R^7\text{-}CO$, $NR^{11}SO_2$, $CONR^{11}$, $CR^6R^7\text{-}CR^8R^9$, $O\text{-}CR^8R^9$ or $NR^{11}\text{-}CR^8R^9$;

provided that R^6 and R^7, and R^8 and R^9 are not both optionally substituted hydroxy or amino;
and wherein:
each of R^6, R^7 , R^8 and R^9 is independently selected from: H; (C_{1-6})alkoxy; (C_{1-6})alkylthio; halo; trifluoromethyl; azido; (C_{1-6})alkyl; (C_{2-6})alkenyl; (C_{1-6})alkoxycarbonyl; (C_{1-6})alkylcarbonyl; (C_{2-6})alkenyloxycarbonyl; (C_{2-6})alkenylcarbonyl; hydroxy, amino or aminocarbonyl optionally substituted as for corresponding substituents in R^3; (C_{1-6})alkylsulphonyl; (C_{2-6})alkenylsulphonyl; or (C_{1-6})aminosulphonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl;
or R^6 and R^8 together represent a bond and R^7 and R^9 are as above defined;

R^{10} is selected from (C_{1-4})alkyl; (C_{2-4})alkenyl and aryl any of which may be optionally substituted by a group R^{12} as defined above; carboxy; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkylsulphonyl, trifluoromethylsulphonyl, (C_{2-6})alkenylsulphonyl, (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl or (C_{2-6})alkenylcarbonyl and optionally further substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl; and

R^{11} is hydrogen; trifluoromethyl, (C_{1-6})alkyl; (C_{2-6})alkenyl; (C_{1-6})alkoxycarbonyl; (C_{1-6})alkylcarbonyl; or aminocarbonyl wherein the amino group is optionally substituted by (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl, (C_{2-6})alkenylcarbonyl, (C_{1-6})alkyl or (C_{2-6})alkenyl and optionally further substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl;

or where one of R^3 and R^6, R^7, R^8 or R^9 contains a carboxy group and the other contains a hydroxy or amino group they may together form a cyclic ester or amide linkage.

2. A compound according to claim 1 wherein R^A is optionally substituted isoquinolin-5-yl, quinolin-8-yl, thieno[3,2-b]pyridin-7-yl, 2,3-dihydro-[1,4]dioxino[2,3-b]pyridin-8-yl, quinoxalin-5-yl, isoquinolin-8-yl, [1,6]-naphthyridin-4-yl, 1,2,3,4-tetrahydroquinoxalin-5-yl or 1,2-dihydroisoquinoline-8-yl..

3. A compound according to any preceding claim wherein R^1 is H, methoxy, methyl, cyano or halogen and R^{1a} is H.

4. A compound according to any preceding claim wherein R^3 is hydrogen; optionally substituted hydroxy; optionally substituted amino; halogen; (C_{1-4})alkoxycarbonyl; $CONH_2$; 1-hydroxyalkyl; CH_2CO_2H; CH_2CONH_2; $-CONHCH_2CONH_2$; 1,2-dihydroxyalkyl; CH_2CN; 2-oxo-oxazolidin-5-yl; or 2-oxo-oxazolidin-5-yl$(C_{1-4}$alkyl).

5. A compound according to any preceding claim wherein n is 0 and A and B are both CH_2, A is CHOH and B is CH_2 or A is NH and B is CO.

6. A compound according to any preceding claim wherein –U- is $–CH_2-$.

7. A compound according to any preceding claim wherein the heterocyclic ring (A) having 8-11 ring atoms including 2-4 heteroatoms of which at least one is N or NR^{13} in which Y^2 contains 2-3 heteroatoms, one of which is S and 1-2 are N, with one N bonded to X^3 or the heterocyclic ring (A) has ring (a) aromatic selected from optionally substituted benzo and pyrido and ring (b) non aromatic and Y^2 has 3-5 atoms, including a heteroatom bonded to X^5 selected from O, S or NR^{13}, where R^{13} is other than hydrogen, and NHCO bonded via N to X^3, or O bonded to X^3.

8. A compound according to any one of claims 1 to 6 wherein R^5 is selected from:
3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]oxazin-6-yl
3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazin-6-yl
7-chloro-3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazin-6-yl
7-fluoro-3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazin-6-yl
2,3-dihydro-[1,4]dioxino[2,3-c]pyridin-7-yl.

9. A compound according to claim 1 selected from:

4-(2-{4-[(3-Oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]oxazin-6-ylmethyl)-amino]-piperidin-1-yl}-ethyl)-quinoline-6-carbonitrile 6-({(3R,4S)-3-Fluoro-1-[(R)-2-hydroxy-2-(2-methoxy-quinolin-8-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one
6-({(3S,4R)-3-Fluoro-1-[(R)-2-hydroxy-2-(2-methoxy-quinolin-8-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one
6-({(3R,4R)-3-Hydroxy-1-[(R)-2-hydroxy-2-(2-methoxy-quinolin-8-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one
6-({(3S,4S)-3-Hydroxy-1-[(R)-2-hydroxy-2-(2-methoxy-quinolin-8-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one
6-({(3R,4S)-1-[2-(2,3-Dihydro-[1,4]dioxino[2,3-*f*]quinolin-10-yl)-ethyl]-3-fluoro-piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one
6-{[(1-{(2R/S)-2-hydroxy-2-[3-(methyloxy)-5-quinoxalinyl]ethyl}-4-piperidinyl)amino]methyl}-2*H*-pyrido[3,2-*b*][1,4]thiazin-3(4*H*)-one
(1R/S)-2-{4-[(2,3-dihydro[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)amino]-1-piperidinyl}-1-[3-(methyloxy)-5-quinoxalinyl]ethanol
{1-[2-(9-Chloro-2,3-dihydro-[1,4]dioxino[2,3-f]quinolin-10-yl)-ethyl]-piperidin-4-yl}-(2,3-dihydro-[1,4]dioxino[2,3-c]pyridin-7-ylmethyl)-amine 6-{[(1-{2-hydroxy-2-[2-(methyloxy)-8-quinolinyl]ethyl}-4-piperidinyl)amino]methyl}-2H-pyrido[3,2-b][1,4]oxazin-3(4H)-one
6-[({1-[2-(4-quinolinyl)ethyl]-4-piperidinyl}amino)methyl]-2*H*-pyrido[3,2-*b*][1,4]thiazin-3(4*H*)-one
4-[2-(3-hydroxy-4-{[(3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]oxazin-6-yl)methyl]amino}-1-piperidinyl)ethyl]-6-quinolinecarbonitrile (isomer E2)
4-[2-(3-hydroxy-4-{[(3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazin-6-yl)methyl]amino}-1-piperidinyl)ethyl]-6-quinolinecarbonitrile (isomer E2)
4-[2-(3-hydroxy-4-{[(3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]oxazin-6-yl)methyl]amino}-1-piperidinyl)ethyl]-6-quinolinecarbonitrile(E1 isomer)
4-[2-(3-hydroxy-4-{[(3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazin-6-yl)methyl]amino}-1-piperidinyl)ethyl]-6-quinolinecarbonitrile(E1 isomer)
or a pharmaceutically acceptable derivative thereof.

10. A method of treatment of bacterial infections in mammals, particularly in man, which method comprises the administration to a mammal in need of such treatment an effective amount of a compound according to claim 1.

11. The use of a compound according to claim 1, in the manufacture of a medicament for use in the treatment of bacterial infections in mammals.

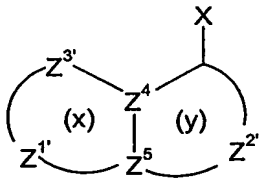
12. A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier for use in the treatment of bacterial infections in mammals.

13. A pharmaceutical composition comprising a compound according to claim 1, and a pharmaceutically acceptable carrier.

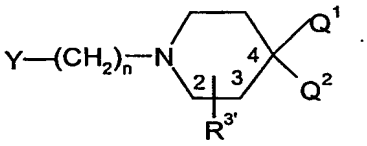
14. A compound according to claim 1 for use as a medicament.

15. A compound according to claim 1 for use in the treatment of bacterial infections in mammals.

16. A process for preparing a compound of formula (I) according to claim 1, or a pharmaceutically acceptable derivative thereof, which process comprises reacting a compound of formula (IV) with a compound of formula (V):



(IV)



(V)

wherein n is as defined in formula (I); $Z^{1'}$, $Z^{2'}$, $Z^{3'}$, $R^{1'}$, and $R^{3'}$ are Z^1, Z^2, Z^3, R^1, and R^3 as defined in formula (I) or groups convertible thereto; Z^4 and Z^5 are as defined in formula (I);

Q^1 is $NR^{2'}R^{4'}$ or a group convertible thereto wherein $R^{2'}$ and $R^{4'}$ are R^2 and R^4 as defined in formula (I) or groups convertible thereto and Q^2 is H or $R^{3'}$ or Q^1 and Q^2 together form an optionally protected oxo group;

(i) X is A'-COW, Y is H and n is 0;

(ii) X is $CR^6=CR^8R^9$, Y is H and n is 0;

(iii) X is oxirane, Y is H and n is 0;

(iv) X is N=C=O and Y is H and n is 0;

(v) one of X and Y is CO_2R^y and the other is $CH_2CO_2R^x$;

(vi) X is CHR^6R^7 and Y is $C(=O)R^9$;

(vii) X is $CR^7=PR^z{}_3$ and Y is $C(=O)R^9$ and n=1;

(viii) X is $C(=O)R^7$ and Y is $CR^9=PR^z{}_3$ and n=1;

(ix) Y is COW and X is $NHR^{11'}$, NCO or NR11'COW and n=0 or 1 or when n=1 X is COW and Y is $NHR^{11'}$, NCO or NR11'COW;

(x) X is $NHR^{11'}$ and Y is $C(=O)R^8$ and n=1;

(xi) X is $NHR^{11'}$ and Y is CR^8R^9W and n=1;

(xii) X is $NR^{11'}COCH_2W$ or $NR^{11'}SO_2CH_2W$ and Y is H and n=0;

(xiii) X is $CR^6R^7SO_2W$ and Y is H and n=0;

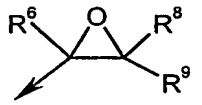
(xiv) X is W or OH and Y is CH_2OH and n is 1;

(xv) X is $NHR^{11'}$ and Y is SO_2W or X is $NR^{11'}SO_2W$ and Y is H, and n is 0;

(xvi) X is W and Y is $CONHR^{11'}$;

(xvii) X is $-CH=CH_2$ and Y is H and n=0;

in which W is a leaving group, e.g. halo, methanesulphonyloxy, trifluoromethanesulphonyloxy or imidazolyl; R^x and R^y are (C_{1-6})alkyl; R^z is aryl or (C_{1-6})alkyl; A' and $NR^{11'}$ are A and NR^{11} as defined in formula (I), or groups convertible thereto; and oxirane is:



wherein R^6, R^8 and R^9 are as defined in formula (I);

and thereafter optionally or as necessary converting Q^1 and Q^2 to $NR^{2'}R^{4'}$; converting A', $Z^{1'}$, $Z^{2'}$, $Z^{3'}$, $R^{1'}$, $R^{2'}$, $R^{3'}$, $R^{4'}$ and $NR^{11'}$;to A, Z^1, Z^2, Z^3, R^1, R^2, R^3, R^4 and NR^{11}; converting A-B to other A-B, interconverting R^1, R^2, R^3 and/or R^4, and/or forming a pharmaceutically acceptable derivative thereof.